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Agriculture in our public schools

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AGRICULTURE IN OUR PUBLIC SCHOOLS

By Prof. E. J. Kyle

Let Us Lay a Solid Foundation for our Future Greatness By Teaching Our Future Farmers the Science of Agriculture

(EDITOR'S NOTE.—Things in Texas are treading the path of progress. The day of the "one-legged nigger and the blind mule in the cotton patch" has passed. People have awakened to the absolute dependency of all things on agriculture. They realize that the farm is the bed-rock reason of prosperity, and appreciate the advisability, nay, the necessity, of bettering the farmer's condition through education. Prof. Kyle, of the Agricultural and Mechanical College of Texas, is one of the leaders of the movement to secure the incorporation of the subject of agriculture in the curriculum of the public schools, and his views on the question are not only interesting but convincing.)

WE WILL probably all agree that there is something radically wrong with our general agricultural conditions, not only in our own State, but in every section of this broad republic. We will also agree, as much as we would like to believe otherwise, that there is a wide-spread prejudice against the vocation of the farmer. This is true, although there is hardly a person in the land, from the politician to the preacher, who does not speak in the highest terms, on every possible occasion, of the glorious work the farmer is performing. In other words, theoretically, farming is the grandest calling that can be followed by man, but in actual practice it is the most despised as a whole of all of our honorable professions. This will undoubtedly strike many of my readers as hard language, but it is the truth, and the sooner we realize the bare fact the better it will be for us. How often do we hear a speaker proclaiming that the farmer is the back-bone of the nation; that farming is the most independent calling of man, and if it were not for the constant inflowing of country blood into our cities they would not long exist. We all know that this is true, and yet there is not one young man in a hundred that will live on a farm if he can do anything else. This seems very peculiar, as well as contradictory, that the profession that is recognized by all to be the most glorious, should at the same time be the most despised and the one that is shunned by the majority of the brightest young men. There must be something wrong, and it must be fundamental and deep-rooted, or it would have been corrected long ago.

This trouble is not of recent growth, but began far back in the development of the race. There was a time when man's physical nature was supreme, but now the mind is the absolute master. The man who thinks the deepest is the one who is honored most and who controls his fellow man. The profession that is the most highly thought of today is the one where brain power counts for the most, the one that receives the most study and is the most thoroughly understood. The farmer is looked down upon because he is ignorant of his profession, because he gives little thought to his work, and because what little education he received only helps to get him out of sympathy with his environment.

If this prejudice of the farmer against the farm and the outsider against the farmer is to be removed, it must be done by education, not

The Way Sugar Cane Grows in the Rio Grande Valley. This Picture was Taken in June, More Than 4 Months Before Time for Cutting.

only of the farmer, but of the people closely interested in his welfare. By education I do not mean completing the courses of study which have so long been taught in our schools, but training the mind along those lines that will bring the person in more direct sympathy with the every-day things of life with which he is to deal.

In this connection it will be interesting to study the development of our educational system. Education was at first for the few, and naturally the rich and aristocratic class was the only one that got the benefit of it. This class controlled the government and religion, and naturally enough, the first education had to do with economics, matters of state, philosophy and morals and culture. The course of study gradually developed along this line. The colleges and universities being an outgrowth of this system, adopted the same line of study. After civilization progressed and there gradually became a demand for the education of the masses, the common school came into existence. The course of study for these schools was taken from the higher schools of learning, without any thought of the direct needs of the people. This course of study, with a few changes, has been handed down from one generation to another, until it has become so fixed upon us we never stop to think whether it is best suited to our needs or not. It is this same course of study that is used in the public schools of our State today, regardless of the fact that it teaches practically nothing of the great industry with which nine-tenths of our people are vitally connected. What is education for, anyway? Is it to teach the child facts about things he will never see and know, or is it to put him in touch and sympathy with the common, every-day things of life from which he is to gain his living, his contentment and his happiness? For myself, I believe in the latter.

Have you ever thought what the public schools of Texas were doing to train or prepare the child for the battle of life? We are purely an agricultural State. The great majority of our people are actively engaged in the profession of agriculture. There are in our public schools some 550,000 children, a large percentage of whom return to the farm. I believe it is time we were introducing something into our schools that will be a direct benefit to the majority of these children. We have educated for the few already too long, let us turn our attention to the demands of the great army of bread winners and home builders. It is true that the study of geometry and Latin develops the mind, but the study of the plant and the cow will do likewise, and at the same time it will be preparing the child for his life work. I am sometimes afraid that our public school system helps to drive a boy from the farm, for it gets him out of sympathy with his environments. Statistics go to prove this. Some time ago inquiries were made in a country district and it was found that 27 per cent. of the children, at seven years of age, preferred to live in the country, while only two per cent. of those at fourteen had the same desire. I believe that as soon as we begin to teach the children of this State more about peaches and tomatoes than we do about the history

of the Greeks and Romans, we have made a great step toward solving the problem of how to keep the boy on the farm.

I would not have you believe that I am anxious to tear down the present course of study in our public schools. What I desire is to see added to this course of study something that will be of more vital interest to the majority of the children. I am glad to say that a few of our schools have already taken up this important work. The main development seems to be along horticultural or nature study lines. The school garden has already been made a success in a number of places. It seems now that this is about the first step to be taken. The garden should be located as near the school building as possible. It should be put and kept in first-class condition. The children should have something to do with planning the garden. They should be taught to adorn and beautify the school grounds. In the garden we should attempt only to grow the most common crops at first. I have received several letters asking for directions for growing celery, etc., in a school garden. I am afraid that this is too difficult a crop with which to begin. The garden should be divided into different plats, and each pupil should be given a separate piece of ground for his experiments. Great care should be taken to get the seed in at the proper time and to give the best attention to the plants. Each student should do all the work in his plat. Do not attempt to teach the child too many facts, but rather try to get him interested to the point of asking questions and seeking the reasons for certain things. A mistake is made if too much time is taken up with the book. The average child loves the plant better than he does the book. The public schools of San Antonio have probably done more along this line than any other school in the State. They have a supervisor of gardening, who goes from one school to the other and gives the children exercises in budding, grafting, sowing of seed and the care of the crop. Besides this a certain amount of class room work is given. This summer a large number of children are caring for gardens under the directions of the supervisor. I will give here an outline of the course of work which I have already suggested to some of the schools. The work is given in order of the different seasons of the year:

September—During the last of September onion seed should be planted and a small amount of other garden truck, depending upon the season and locality.

October—Garden seed, such as radishes, beets, turnips, carrots, mustard and spinach, should be sown. Hot beds and cold frames should be prepared, so as to be ready when needed. Orchard land should be broken and thoroughly prepared.

November—Garden land for spring use should be broken and given a heavy dressing of manure. Young trees for the orchard should be ordered.

December—All spring garden seed should be purchased, and if the hot bed is to be heated by the decomposition of organic matter, material should

be placed in the bed. Trees should be planted. Onion sets should be transplanted.

January—Tomatoes and cabbage should be planted in hot beds. Trees should be pruned.

February—Potatoes, beets, radishes, lettuce and peas should be planted. Tomatoes should be transplanted to the cold frame, cabbage to the open field. Egg plants and peppers should be planted in the hot bed.

March—Corn, squash, peas, cantaloupes and cucumbers should be planted. Tomatoes should be transplanted to the open field.

April—Okra and watermelons should be planted and egg plants should be transplanted to the open field.

May—Sweet potatoes, peanuts and cow peas should be planted. Crops should be harvested during May and June and careful notes taken of the work. The season of planting will, of course, vary with the different sections of the country.

As to literature upon the subject, a number of books have been written, the principal ones of which I will name below:

Principles of Plant Culture—By Goff.

Agriculture for Beginners—By Burkett, Stephen and Hill.

New Elementary Agriculture—By Bessy, Bruner and Swezey.

Practical Agriculture—By James.

How to Make School Gardens—By Hemenway.

First Principles of Agriculture—By Goff-Mayne.

Besides these books, nearly every experiment station in the country has issued bulletins that can be used in the work. At our own college we have a number of bulletins that would be of a great deal of value to schools taking up this line of work. These bulletins can be had for the asking.

It is a common opinion that the securing of agricultural teachers will be a serious problem; I do not believe it. It is true that there are very few teachers in the State who are now prepared to do this work, but as soon as the movement has gotten well under way a considerable number of teachers can be gotten who are graduates of our agricultural college. Then, too, agriculture is being introduced into our normal schools, with the result that within a short time these schools will be able to supply a large number of teachers competent to teach the study. There is not an intelligent school teacher in Texas who could not prepare himself to teach the elements of agriculture in our graded schools. The supply of teachers is a secondary consideration, which will solve itself as soon as we take up this work in earnest.

Let us not look upon the introduction of agriculture into our public schools as a step in the dark. It has been tried by other States, and, without an exception, has proved a great success. We should not wait until the farmer has reached manhood and then try to educate him through the farmers' institutes or by literature sent out from our experiment stations. You cannot straighten the oak after it has been twisted and torn for years by the tempest; you cannot educate the farmer after

A Southwest Texas Cotton Field in May.

he has been subjected to the prejudices and superstitutions of a life time. It is constructing the roof before the foundation is laid. We build nothing by beginning at the top, except graves, and they are to bury us. Let us begin with the child while his mind is fresh and vigorous and teach him to understand nature and love the old farm. In introducing agriculture into our schools, we will only be beginning a movement that we should have been the first State in the Union to start, instead of among the last. We can only hope to become a great people through the proper development of our natural resources, and the only one of these resources that we can possibly be great in is agriculture. Then let us lay a solid foundation for our future greatness by teaching our future farmers the science of agriculture.

I will give below the plan of study laid down by a committee appointed by the Association of American Colleges and Experiment Stations:

SYLLABUS OF ELEMENTARY COURSE IN AGRICULTURE*

I. PLANT PRODUCTION.

1. The Plant	Structure Physiology how Plants	Feed Grow REPRODUCED BY	SEEDS Bulbs Cuttings Grafts Buds	Trace Life History from Seed to Seed Noting Pollination, Crosses, Hybrids, Etc.
2. The Environment of the Plant	CLIMATE		Light, Heat, Moisture, Air	Study these in relation to plant growth
	SOIL	PROPERTIES	Nature and functions, origin.	Distinguish between light and heavy soils, porous and impervious soils, soils that bake and those which do not, etc.
		CLASSIFICATION		Main classes, such as sand, clay, loam, peat, silt.
		MANAGEMENT	Temperature Aeration Moisture	Tillage, Drainage, Irrigation
				Enrichment { Farm manures, Commercial, Fertilizers
				Impoverishment, Cropping-rotation
3. Farm Crops	CLASSIFICATION. Individual crops. (Study one or more of the leading crops of the region).		Include only the most general classes, such as cereals, grasses, legumes, tubers, etc. Name place in classification varieties	
		CULTURE		Preparation of the soil, selection of seed, Testing of seeds, Planting, Cultivating
				Protection from pests { Weeds, Diseases, Insects, Birds, Mammals
				Harvesting, Marketing
4. Fruits. One or more of the leading fruits of the region should be studied in the same manner as farm crops.				

*In this syllablus the same general arrangement of topics has been made as in the higher courses outlined by this committee, but it is of course to be understood that the treatment of these topics by the teacher in the common school should be brief, simple, and elementary.

II. ANIMAL PRODUCTION.

1. **Domestic Animals their Types and Breeds**	HORSES	Draft, Trotting, Roadsters, etc.	Bring out leading characteristics of one or two leading breeds of each type represented in a given region.
	CATTLE	Dairy. Beef	
	SHEEP	Wool, Mutton	
	Swine		
	Poultry		
	Bees		
2. **Care and Management of Domestic Animals**	FEEDING	Only the most general statements regarding the food requirements of different animals and for different purposes, and exercises in compounding rations suitable to a given region.	
	HYGIENE	Water Supply, Exercise, Shade	
		Condition of inclosures as to { Comfort, Ventilation, Cleanliness.	
	Preparation and care of Product.		
	Marketing Product		

III. DAIRYING.

1. **The Dairy Cow**	TYPE	A more detailed study of the daily type than was given under animal production	
	Feeding, Care and Management		
	COMPOSITION	How determined Relation to price.	
	HANDLING	Cleanliness { Stables Cows, Attendants, Vessels { Relation to souring (or tainting) of milk	
		Straining, Aerating, Cooling	
2. **Milk**	USES	For consumption as milk or cream	Putting up in cans or bottles for marketing
		For condensing	Putting in cans and hauling
		For cheese making	
		For butter making	Creaming....By setting in pans. By use of Separator.
			Churning....Temperature, Kinds of Churns
			Salting, Coloring, Working, Packing, Marketing.